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Working With Wetlands

United States Department of Agriculture

Soil Conservation Service

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Cover photo:

Recently established wetlands near Jackson, Wyoming, reflect the Soil Conservation Service commitment to these valuable resources. (#0193-01)

Photo this page

Both coastal and inland wetlands provide nesting, breeding, and feeding habitat for wildlife like this Western grebe. (#0193-22)

All photography by Tim McCabe, SCS National Photographer, unless otherwise credited.



Introduction

Preserving, enhancing, and restoring wetlands is an important part of the U.S. Department of Agriculture's (USDA) commitment to ecosystem-based assistance. This bulletin gives an overview of how USDA's Soil Conservation Service (SCS) and Agricultural

Stabilization and Conservation Service (ASCS) are involved in wetland projects and programs. For more information about how USDA works with wetlands, contact your local SCS office, ASCS office, or conservation district.



Left

Prairie potholes in eastern South Dakota provide valuable habitat for nesting waterfowl. (#0193-03)

Below

Tidal marsh along Maryland's Eastern Shore. (#0193-02)



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Wetlands—what they are and what they do

Wetlands are vital and dynamic ecosystems. They filter pollutants from water, reduce flood damage, and recharge aquifers. Many people benefit economically from the fishing, hunting, and recreational opportunities wetlands provide. Wetlands can be covered by or saturated with water for either part of the growing season or year-round.

A third of all species of birds, 190 species of amphibians, and all of America's wild ducks and geese depend on wetlands for their survival.

Wetlands are alive with plants, too. Buttonbush, pitcher plants, wild rice, and water oaks are among the nearly 5,000 species of plants found in our Nation's wetlands.

Opposite

Bog wetland in New Jersey's Pine Barrens.
(#0193-05)

Below

Tupelo gum trees in a leaf-covered swamp.
(#0193-04)



The major kinds of wetlands

Several kinds of wetlands occur naturally—tidal and freshwater marshes, swamps and floodplain forests, and bogs. Tidal and freshwater marshes are characterized by herbaceous plants and ponded water that varies in depth with the season. Some marshes, such as coastal marine wetlands, may be flooded year-round. Other types, such as prairie potholes, may be completely dry for much of the year. During dry years, some are farmed. Most prairie pothole wetlands were formed

in depressions left by retreating glaciers; however, some were created by wind or other geologic processes. Prairie pothole wetlands furnish much of our waterfowl habitat. They are commonly found in north-central North America.

Swamps and floodplain forests are dominated by trees, shrubs, and other woody plants adapted to flooding, ponds, or saturated soil conditions. They develop along flood-

PHOTO BY ROBERT PRICE



plains, ox-bows, and backwater reaches of rivers and streams. Swamps and floodplain forests are particularly prevalent in the Southeastern United States. They are important for wildlife habitat, floodwater storage, and trapping sediment.

Bogs are typically found in formerly glaciated parts of the Northeast and the Appalachian Mountains. They are characterized by a peaty substrate, evergreen trees, shrubs, and sphagnum moss.

Greentree reservoirs are artificially created wetlands. They are found throughout the Southeast in bottomland hardwood areas. These waterfowl management reservoirs are usually flooded in the winter and drawn down in the summer. Natural and artificial wetlands supported by levees provide habitat for wintering waterfowl in California's central valley, the gulf coast, east coast, and along streams in the Midwest.



Left

Bottomland hardwood. (#0193-06)

Below

Sandhill cranes in central California benefit from temporary wetlands created when cropland is levied and flooded. (#0193-07)





What is a wetlands project?

There are four basic types of wetlands projects—restoration, enhancement, creation, and construction. Wetland restoration involves rehabilitating converted wetlands. This may require the restoration of wetland hydrology and the planting of native wetland shrub and tree species. Wetland enhancement improves a slightly degraded wetland or manages an existing wetland to serve a special function, such as attracting waterfowl. Wetland creation is the establishment of a wetland in an historically upland area. Wetland construction is the building of a wetland to treat nonpoint and point sources of water pollution.

Opposite page

A restored wetland in Iowa. (#0193-08)

Top left

A created wetland in Maryland. (#0193-10)

Bottom left

A constructed wetland in Alabama filters waste from a hog operation. (#0193-11)

Right

An enhanced wetland in Wyoming. (#0193-09)



Technical assistance from SCS

Before surveying begins and the type of wetland project is chosen, SCS collects data about the proposed site. The site is evaluated for:

- location in the landscape;
- soils;
- annual rainfall;
- availability of water;
- existing drainage systems;
- capacity to support vegetation and wildlife;
- aesthetics;
- economic value;
- possible recreational uses; and
- possible sources of pollution that originate offsite.

SCS planners design structural and vegetative components that are essential to creating, restoring, enhancing, and maintaining wetlands. It is preferable to use few or no structural measures in wetland restoration

Below

SCS technical specialists assist landowners with wetland design and maintenance. (#0193-12)



projects. However, some wetlands projects may require a combination of structural components such as dikes and water control structures to ensure that wetland hydrology is maintained.

Working with landowners, SCS develops plans for restoring and enhancing vegetation. The plans state the species of vegetation suitable for the site and how the vegetation should be planted and managed.



Left

In wetland areas, small metal structures with wooden boards may be used to maintain a desired water depth. (#0193-14)

Below

Plans are designed to enhance the wetland's function and value. (#0193-13)



Managing and monitoring wetlands

Before work on a wetland begins, USDA and the landowner develop a wetland management plan. The plan considers the conditions that exist at the site, the types of technical assistance that are necessary for the project, and the results of surveys.

To ensure that the wetland's functions and values are established, SCS helps monitor the site both during and after construction. The project is monitored by comparing the restored or created wetland to other wetlands in the area.

Below

In eastern South Dakota, an enhanced wetland that was once a small ditch provides many acres of wildlife habitat. (#0193-15)



Farmers speak out for wetlands

Many farmers share SCS' commitment to wetlands. Some of them see maintaining wetlands as part of their stewardship of the environment. Some enjoy the economic benefits that wetlands provide. Others maintain wetlands because of their love for wildlife. The following are personal observations from farmers who have been helped with wetlands projects.



Bruce Brown, Louisiana rice and soybean farmer

"In October, after harvest, we close off our drains to hold rain water on our fields. We pump water on for crawfish, ducks, and geese. That's when the fun begins." (#0193-16)



Larry Cutteback, Iowa grain and livestock farmer

"We don't feel like we're sacrificing any economic benefits by farming in a way that's conducive to wildlife. What value can you place on an eagle in flight, 25 or 30 Canada geese getting off of the water, or a deer waiting for a drink on a hot day?" (#0193-18)

Wetlands programs administered by SCS

Conservation Operations (CO-01)

This program authorizes SCS to work through local conservation districts to provide technical assistance that may include wetland restoration, enhancement, and management.

Small Watershed Projects

This program provides cost-sharing assistance for the acquisition of perpetual wetland easements to help prevent flooding and improve the quality of water and fish and wildlife habitats. To qualify, the purpose of the project must be flood prevention or watershed protection; wetland conservation cannot be

Sally Hearne and Jim Shanks, California grain farm managers

"We flood our fields to control weeds. Basically, it was good farming practices that put us in water. The spinoff is the enhancement for wildlife."

(#0193-19)



its primary objective. Small watershed projects are sponsored by soil and water conservation districts and other State and local public agencies. SCS helps:

- potential watershed sponsors prepare their applications for sponsorship and complete environmental impact statements;
- survey the site;
- prepare the site;
- prepare designs and specifications for construction; and
- ensure that the work meets quality standards.

Below

A small watershed project in north-central Pennsylvania supplies water to a nearby community and assists in flood prevention. (#0193-20)



Rural Abandoned Mine Program

Wetland development can be part of reclaiming rural lands that have been adversely affected by coal mining. In this program, SCS:

- helps participants develop reclamation plans;
- offers cost-sharing assistance to people who own or control non-Federal land that has been mined for coal; and
- sets priorities for participation in the program.

Great Plains Conservation Program

SCS offers technical and cost-sharing assistance to farmers and ranchers in the drought-prone Great Plains. In addition to conserving and enhancing wetlands through this program, SCS:

- helps install and maintain conservation practices;
- reduces erosion;
- improves water quality; and
- develops wildlife habitat and recreation areas.

Plant Materials Program

Through its plant materials centers, SCS tests vegetation for use in restoring and enhancing wetlands and cooperates with Federal and State agencies and private groups to develop ways to propagate and manage wetland plants.

Keeping in compliance

SCS helps ensure that plans for wetlands comply with the provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation, and Trade Act of 1990. SCS also makes sure that wetland plans follow Federal, State, and local environmental regulations.

Opposite page

Since flooding his rice fields each winter, Bruce Brown's farm has attracted thousands of migrating waterfowl. (#0193-17)

Wetlands programs administered by ASCS

Wetlands Reserve Program

This voluntary easement program helps landowners restore and protect their wetlands. The program targets wetlands currently being farmed and former wetlands. ASCS administers the program and offers financial incentives up to the wetland's agricultural value. Cost sharing from ASCS is used to

develop and implement a plan to restore a wetland. In return, a long-term easement on the land is granted to maintain the area as a wetland. SCS helps determine eligibility and provides technical assistance under the program for restoring, protecting, and managing wetlands.



Summary

Water Bank Program

The Water Bank Program maintains and improves wetlands, particularly for waterfowl. ASCS administers the program and provides funding for the protection of wetlands and adjacent uplands. Cost sharing is also offered for wetland restoration or enhancement. SCS develops conservation plans and contracts for the Water Bank Program.

Agricultural Conservation Program

This ASCS-administered program provides cost sharing to landowners who apply conservation practices to their land. Eligible are cost-share practices for wetland restoration, creation, and enhancement. SCS offers technical planning, design, and management help.

Through its programs and its work with other government agencies and private groups, USDA agencies help people restore and use wetlands in ways that balance environmental responsibility and profitability. The nationwide network of SCS and ASCS field offices makes wetland technical assistance, management, monitoring, and programs readily available. USDA agencies provide assistance to the U.S. Department of the Interior's Fish and Wildlife Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, State natural resource agencies, conservation districts, and private organizations such as Ducks Unlimited, Pheasants Forever, and sporting clubs to help restore, enhance, and manage wetlands. For information about SCS and how its Earth Team volunteers work with wetlands, call 1-800-THE-SOIL.

Opposite page

Wildlife, like this American avocet, are direct beneficiaries of the Wetlands Reserve Program. (#0193-21)

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